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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/507,130	IDO ET AL.	
	Examiner	Art Unit	
	Andrew Lai	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/4/07, 11/18/05, 9/10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1 and 3 are rejected under 35 U.S.C. 102(a) as being anticipated by Schulzrinne et al ("RTP: A transport Protocol for Real-Time Applications", IETF draft-draft-ietf-avt-rtp-new-11.ps, November 20, 2001, Schulzrinne hereinafter).

Schulzrinne discloses an Internet version of a memorandum that "specifies the real-time transport protocol (RTP), which provides end-to-end delivery services for data with real-time characteristics" ([page 4], Chapter "Introduction", 2nd paragraph, lines 1-2) comprising the following features:

Regarding claim 1, *an adaptive control method in real-time communication* (see "10 Congestion Control All transport protocols used on the Internet need to address congestion control in some way. RTP is not an exception", [page 52] lines 1-4), *comprising:*

a first step of making arrangement for a transmission interval (see "RTCP Transmission Interval", [page 18] title of section 6.2, known also as "The calculated interval T", [page 22] subsection 6.3.1, 1st paragraph line 4, and "Computing the RTCP transmission interval", [page 22] subsection 6.3.1, wherein "This interval is called the

calculated interval. It is obtained by combining a number of pieces of state", subsection 6.3.1, 1st paragraph lines 2-3. It is noted here that said subsection 6.3.1 particularly provided **5 steps** of calculating said T, or *making arrangement for a transmission interval) of a receiver report packet* (see "RR: Receiver report", [page 16] subsection "6.1 RTCP Packet Format", 3rd paragraph, and "SR or RR: The first packet in the compound packet MUST always be a report packet", [page 17], 4th paragraph line 1, which "compound packet" is shown on [page 18] figure 1) *to be transmitted to a data transmission apparatus by a data reception apparatus between the data transmission apparatus and the data reception apparatus* (see "RR: Receiver report, for reception statistics from participants that are not active senders", [page 16], subsection 6.1 3rd paragraph line 1, and "RTP receivers provide reception quality feedback using RTCP report packets", [page 26] subsection 6.4 line 3) *before starting transmission and reception of real-time data* (see subsection "6.3.2 Initialization", [page 23], under which initialization process, "The calculated interval T is then computed", [page 23] subsection 6.3.2 line 4, noting that "initialization" means, as well known in the art, *before starting real-time* communications);

a second step of the data transmission apparatus monitoring reception conditions of the receiver packet in a unit of the arranged transmission interval after starting transmission and reception of the real-time data (see ***1.*** "RTP receivers provide reception quality feedback using RTCP report packets", [page 26] subsection 6.4 line 3, ***2.*** "Monitor: An application that receives RTCP packets sent by participants in an RTP session, in particular the reception reports, and estimates the current quality of service

for distribution monitoring, fault diagnosis and long-term statistics", [page 9] 3rd paragraph lines 1-3); *and*

a third step of the data transmission apparatus adaptively control data transmission based on a monitoring result (refer to subsection 6.4.4 [page 33] "Analyzing sender and receiver reports" and see "It is expected that reception quality feedback will be useful ... for the sender ... The sender may modify its transmission base on the feedback", subsection 6.4.4, 1st paragraph lines 3-4).

Regarding claim 3, *wherein a connection-oriented transport scheme having a high reliability is used for the arrangement of the transmission interval in the first step* (see "application that receives RTCP packets sent by participants in an RTP session, in particular the reception reports", [page 9] 3rd paragraph lines 1-2), *whereas a connection-less type transport scheme is used for transmission and reception of the real-time data* (see "An RTP translator/mixer connects two or more transport-level 'clouds'. Typically, each cloud is defined by a common network and transport protocol (e.g. IP/UDP)", [page 41] subsection 7.1 lines 1-2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulzrinne et al ("RTP: A transport Protocol for Real-Time Applications", IETF draft-draft-ietf-avt-rtp-new-11.ps, November 20, 2001, Schulzrinne hereinafter) in view of Floyd et al ("Equation-Based Congestion Control for Unicast Applications", SIGCOMM '00, Floyd hereinafter).

Regarding claim 2, Schulzrinne discloses claimed limitations in paragraph 2 above. Shulzrinne further disclose the following features:

wherein the transmission interval (said "calculated interval T" cited above in claim 1) *of the receiver report packet in the first step is a fixed interval or a tolerable maximum interval* (see "the calculated interval T is set to a number uniformly distributed between 0.5 and 1.5 times the deterministic calculated interval", [page 22] 3rd paragraph from the bottom);

in the second step, based on information in received reception reports, *an occurrence of a congestion in the communication path, an occurrence of a transmission error in the communication path, or an inability of communication with the reception apparatus is estimated* (the estimate hereinafter) (see "Monitor: An application that receives RTCP packets sent by participants in an RTP session, in particular the reception reports, and estimates the current quality of service for distribution monitoring, fault diagnosis and long-term statistics", [page 9] 3rd paragraph lines 1-3).

Schulzrinne also discloses a general concept of handling possible *failed receptions of a receiver report packet* in that "cumulative counts are used in both the sender information and receiver report blocks ... to provide resilience against the loss of

a report" ([page 33] subsection 6.4.4 2nd paragraph). Schulzrinne however falls short of expressly disclosing details, particularly:

above cited "the estimate" being *based on information of number of times of failed reception of a receiver report packet within the transmission interval or within an interval of the transmission interval plus a delay time of a transmission path; and*

in the third step, a control for either data transmission rate change or data transmission stop is performed.

Floyd discloses "a mechanism equation-based congestion control for unicast traffic" (Abstract lines 1-2) with "the primary goal" of "not to aggressively find and use available bandwidth, but to maintain a relatively steady sending rate while still being responsive to congestion" (p.44 the right col. last four lines) comprising the above cited features which Shulzrinne does not expressly disclose (see "The receiver should report feedback to the sender at least once per round-trip time if it bas received packets in that interval," and "If the sender has not received feedback after several round-trip times, then the sender should reduce its sending rate, and ultimately stop sending altogether", p.45 the left col. paragraphs 5 and 6)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schulzrinne by adding the features of Floyd in terms of adjusting transmission based on number of lost feedback report in order to provide a more robust system having "congestion control mechanisms for best-effort streaming multimedia" (Floyd, p.43 right col., 3rd paragraph lines 3-4).

Regarding claim 11, Schulzrinne discloses an Internet version of a memorandum that "specifies the real-time transport protocol (RTP), which provides end-to-end delivery services for data with real-time characteristics" ([page 4], Chapter "Introduction", 2nd paragraph, lines 1-2) comprising the following features:

a data distribution apparatus ("data sender", [page 19] 3rd paragraph line 8) *for distributing real-time data via a communication network* (see "This memorandum describes RTP, the real-time transport protocol. RTP provides end-to-end network transport functions suitable for applications transmitting real-time data", Abstract lines 3-4), *comprising:*

a timer (see "a transmission timer", [page 23], 1st paragraph line 6) *for measuring the elapsing of a transmission interval of a receiver report packet* (see "The calculated interval T is then computed, and the first packet is scheduled for time $t_n = T$. This means that a transmission timer is set which expires at time T", [page 23], 1st paragraph lines 5-6, noting that said "calculated interval T" refers, as disclosed in subsection 6.3.1 "computing the RTCP transmission interval", to *the transmission interval of a receiver report packet* because said "RTCP transmission" uses "RTCP compound packet" as shown in figure 1 on [page 18] and "The first packet in the compound packet MUST always be a report packet", [page 17], 4th paragraph line 1); *which is notified by an apparatus at distribution end or is determined by the apparatus itself* (see again "The calculated interval T is then computed", [page 23], 1st paragraph line 5);

Schulzrinne also discloses a general concept of handling possible *failed receptions of a receiver report packet* in that "cumulative counts are used in both the

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sender information and receiver report blocks ... to provide resilience against the loss of a report" ([page 33] subsection 6.4.4 2nd paragraph).

Schulzrinne does not expressly disclose the following features of **claim 11**:

a counter that counts number of times of failed receptions of the receiver report packet within the transmission interval or within an interval of the transmission interval plus a delay time of a transmission path; and

an adaptive control section in real-time communication that compares a counter value of the counter with one or more threshold, and based on a comparison result, lowers transmission rate of the real-time data or disconnects session.

Floyd discloses "a mechanism equation-based congestion control for unicast traffic" (Abstract lines 1-2) with "the primary goal" of "not to aggressively find and use available bandwidth, but to maintain a relatively steady sending rate while still being responsive to congestion" (p.44 the right col. last four lines) comprising the above cited features which Shulzrinne does not expressly disclose, particularly:

a counter that counts number of times of failed receptions of the receiver report packet within the transmission interval or within an interval of the transmission interval plus a delay time of a transmission path; and

an adaptive control section in real-time communication that compares a counter value of the counter with one or more threshold, and based on a comparison result, lowers transmission rate of the real-time data or disconnects session.

(see "The receiver should report feedback to the sender at least once per round-trip time if it bas received packets in that interval," and "If the sender has not received

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feedback after several round-trip times, then the sender should reduce its sending rate, and ultimately stop sending altogether", p.45 the left col. paragraphs 5 and 6, noting that ""If the sender has not received feedback after several round-trip times" requires a *counter that counts number of failed receptions* as well as *compares* the *counter value with one or more threshold*, depending on how "several round-trips" is preset to be compared against).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schulzrinne by adding the features of Floyd in terms of adjusting transmission based on number of lost feedback report in order to provide a more robust system having "congestion control mechanisms for best-effort streaming multimedia" (Floyd, p.43 right col., 3rd paragraph lines 3-4).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al ("Equation-Based Congestion Control for Unicast Applications", SIGCOMM '00, Floyd hereinafter) in view of Suzuki (US 5,790,170)

Floyd discloses said equation-based congestion control as "a viable mechanism to provide relatively smooth congestion control" for real-time traffic (p.43 right col. last two lines) comprising the following features:

Regarding claim 4, *a method for taking measures against consecutive loss of receiver report packets in real-time communication* (see "The algorithm for calculating the loss event rate is a key design issue in equation-based congestion control", p.45 3rd

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paragraph lines 1-2, and "where a *loss event* consists of one or more packets dropped within a single round-trip time", Abstract lines 9-10), *comprising the steps of:*

determining *a transmission interval* (see "round-trip time", p.45 left col. 4th paragraph line 2) *of a receiver report packet to be transmitted by the data reception apparatus to the data transmission apparatus before starting transmission and reception of data, thereby obligating the data reception apparatus to transmit a receiver report packet at least once within the transmission interval after starting transmission and reception* (see "The receiver should report feedback to the sender at least once per round-trip time", p.45 left col. 4th paragraph lines 1-2); *and*

the data transmission apparatus monitoring the reception conditions of the receiver report packet sent from the data reception apparatus in a unit of an interval of the transmission interval or an interval or the transmission interval plus a delay time of a transmission path, and performing adaptive control for either data transmission rate change or data transmission stop in a case where consecutive loss of the receiver report packets arise (see "If sender has not received feedback after several round-trip times, then the sender should reduce its sending rate, and ultimately stop sending altogether", p.45 left col. 4th paragraph lines 4-6).

Floyd however does not disclose determining said transmission interval of a receiver report packet by *either a data transmission apparatus or a data reception apparatus notifying the apparatus at other end an* aforesaid interval *utilizing a control signal at the time of session establishment.*

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Suzuki discloses "two-way information transmission system such as video on-demand system" (col. 1 lines 8-9) wherein "a subscriber terminal sends the demands ... to the information distribution transmission center" (Abstract lines 1-6) comprising the above cited features that are missing in Floyd, particularly,

either a data transmission apparatus or a data reception apparatus notifying the apparatus at other end a interval of packet transmission utilizing a control signal at the time of session establishment (see "The information distributing transmission center HE plans a transmits information requested according to the transmission schedule ... and transmits the transmission schedule information included in the going-down control data to the subscriber terminal which sent the demand prior to the actual transmission", Abstract lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Floyd by adding the second-party notified packet transmission interval of Suzuki to Floyd in order to provide a cost effective system wherein "the scale of the real-time transmission facility which must be provided by the information distribution transmission center can be reduced" (Suzuki, col. 4 lines 28-30).

6. Claims 5 – 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulzrinne et al ("RTP: A transport Protocol for Real-Time Applications", IETF draft-draft-ietf-avt-rtp-new-11.ps, November 20, 2001, Schulzrinne hereinafter) in view of Suzuki (US 5,790,170)

Regarding claim 5, Schulzrinne discloses *a dynamic determination apparatus* (see "Sender and Receiver", [page 26] section title for 6.4) *for a transmission interval of a receiver report packet* (see "Computing the RTCP transmission interval", [page 22] subsection 6.3.1 title, wherein "RTP receivers provide reception quality feedback using RTCP report packets", [page 26] subsection 6.4 line 3), *comprising:*

a transmission interval determination section that dynamically determines a transmission interval of a receiver report packet in real-time communication (see "RTCP Transmission Interval", [page 18] title of section 6.2, known also as "The calculated interval T", [page 22] subsection 6.3.1, 1st paragraph line 4, and "Computing the RTCP transmission interval", [page 22] subsection 6.3.1, wherein "This interval is called the calculated interval. It is obtained by combining a number of pieces of state", subsection 6.3.1, 1st paragraph lines 2-3. It is noted here that said subsection 6.3.1 particularly provided **5 steps** of calculating said T, or *a transmission interval*, and see further "RR: Receiver report", [page 16] subsection "6.1 RTCP Packet Format", 3rd paragraph, and "SR or RR: The first packet in the compound packet MUST always be a report packet", [page 17], 4th paragraph line 1, which "compound packet" is shown on [page 18] figure 1).

Schulzrinne does not expressly teach the following feature:

a transmission section that transmits the determined transmission interval to an apparatus at other end of communication using a connection-oriented transport scheme having a high reliability.

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Suzuki discloses "two-way information transmission system such as video on-demand system" (col. 1 lines 8-9) wherein "a subscriber terminal sends the demands ... to the information distribution transmission center" (Abstract lines 1-6) comprising the above cited features that are missing in Schulzrinne, particularly,

a transmission section that transmits the determined transmission interval to an apparatus at other end of communication using a connection-oriented transport scheme having a high reliability (see "The information distributing transmission center HE plans a transmits information requested according to the transmission schedule ... and transmits the transmission schedule information included in the going-down control data to the subscriber terminal which sent the demand prior to the actual transmission", Abstract lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Schulzrinne by adding the second-party notified packet transmission interval of Suzuki to Schulzrinne in order to provide a cost effective system wherein "the scale of the real-time transmission facility which must be provided by the information distribution transmission center can be reduced" (Suzuki, col. 4 lines 28-30).

Regarding claim 6, Schulzrinne discloses *an adaptive control apparatus in real-time communication* ("sender", [page 16] subsection 6.1 2nd paragraph), *comprising:*

a monitoring section that monitors reception conditions of the receiver report packet in a unit of a transmission interval determined by the dynamic determination apparatus for the transmission interval of the receiver report packet according to claim 5

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after starting transmission and reception of the real-time data (see ***1.*** "RTP receivers provide reception quality feedback using RTCP report packets", [page 26] subsection 6.4 line 3, ***2.*** "Monitor: An application that receives RTCP packets sent by participants in an RTP session, in particular the reception reports, and estimates the current quality of service for distribution monitoring, fault diagnosis and long-term statistics", [page 9] 3rd paragraph lines 1-3); *and*

an adaptive control section that controls data distribution adaptively based on a monitoring result (refer to subsection 6.4.4 [page 33] "Analyzing sender and receiver reports" and see "It is expected that reception quality feedback will be useful ... for the sender ... The sender may modify its transmission base on the feedback", subsection 6.4.4, 1st paragraph lines 3-4).

Regarding claim 7, Schulzrinne discloses *a data reception apparatus for receiving media data distributed via a communication network* (see "Receiver", [page 16] subsection 6.1 3rd paragraph) *to replay audio and video* (see "This memorandum describes RTP, the real-time transport protocol. RTP provides end-to-end network transport functions suitable for applications transmitting real-time data, such as audio, video or simulation data", Abstract lines 3-5, *the apparatus comprising:*

a transmission interval determination section that determines an transmission interval of a receiver report packet (see "RTCP Transmission Interval", [page 18] title of section 6.2, known also as "The calculated interval T", [page 22] subsection 6.3.1, 1st paragraph line 4, and "Computing the RTCP transmission interval", [page 22] subsection 6.3.1, wherein "This interval is called the calculated interval. It is obtained by

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combining a number of pieces of state", subsection 6.3.1, 1st paragraph lines 2-3. It is noted here that said subsection 6.3.1 particularly provided **5 steps** of calculating said T, or *a transmission interval*, and see further "RR: Receiver report", [page 16] subsection "6.1 RTCP Packet Format", 3rd paragraph) "SR or RR: The first packet in the compound packet MUST always be a report packet", [page 17], 4th paragraph line 1, which "compound packet" is shown on [page 18] figure 1).

a receiver report packet generation section; and

a receiver report packet transmission section that transmits the receiver report packet ("SR or RR: The first packet in the compound packet MUST always be a report packet", [page 17], 4th paragraph line 1, which "compound packet" is shown on [page 18] figure 1, which determines that there is necessarily in the sender device a *receiver report packet generator* as well as *a transmitter* in order to perform said function) *at least once within the transmission interval* (see subsection 6.3.6 paragraphs 1-3 on [page 24], especially paragraph 3, which clearly provides said feature)

Schulzrinne does not disclose *a control information transmission and reception section that notifies the determined transmission interval information to other end of communication using a connect-oriented communication protocol.*

Suzuki who discloses "two-way information transmission system such as video on-demand system" (col. 1 lines 8-9) wherein "a subscriber terminal sends the demands ... to the information distribution transmission center" (Abstract lines 1-6) comprising the above cited features that are missing in Schulzrinne (see "The information distributing transmission center HE plans a transmits information requested according to the

transmission schedule ... and transmits the transmission schedule information included in the going-down control data to the subscriber terminal which sent the demand prior to the actual transmission", Abstract lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Schulzrinne by adding the second-party notified packet transmission interval of Suzuki to Schulzrinne in order to provide a cost effective system wherein "the scale of the real-time transmission facility which must be provided by the information distribution transmission center can be reduced" (Suzuki, col. 4 lines 28-30).

Regarding claim 8, Schulzrinne discloses *wherein the transmission interval* (said "calculated interval T" cited above in claim 1) *of the receiver report packet is a fixed interval or a tolerable maximum interval* (see "the calculated interval T is set to a number uniformly distributed between 0.5 and 1.5 times the deterministic calculated interval", [page 22] 3rd paragraph from the bottom);

Regarding claim 9, Schulzrinne discloses *wherein the data reception apparatus is a mobile device having a communication function* (see "for applications such as telephony in which some sources such as mobile entities may change addresses during the course of an RTP session, the RTP implementation SHOULD modify ...", [page 49] 3rd paragraph lines 3-5).

Regarding claim 10, Schulzrinne discloses *a data distribution apparatus* ("data sender", [page 19] 3rd paragraph line 8) *for distributing real-time data via a communication network* (see "This memorandum describes RTP, the real-time transport

protocol. RTP provides end-to-end network transport functions suitable for applications transmitting real-time data", Abstract lines 3-4), *comprising:*

a transmission interval determination section that determines an transmission interval (see "RTCP Transmission Interval", [page 18] title of section 6.2, known also as "The calculated interval T", [page 22] subsection 6.3.1, 1st paragraph line 4, and "Computing the RTCP transmission interval", [page 22] subsection 6.3.1, wherein "This interval is called the calculated interval. It is obtained by combining a number of pieces of state", subsection 6.3.1, 1st paragraph lines 2-3. It is noted here that said subsection 6.3.1 particularly provided **5 steps** of calculating said T, or *determines a transmission interval) of a receiver report packet* (see "RR: Receiver report", [page 16] subsection "6.1 RTCP Packet Format", 3rd paragraph, and "SR or RR: The first packet in the compound packet MUST always be a report packet", [page 17], 4th paragraph line 1, which "compound packet" is shown on [page 18] figure 1) *transmitted by a distribution end apparatus to the data distribution apparatus* (see "RR: Receiver report, for reception statistics from participants that are not active senders", [page 16], subsection 6.1 3rd paragraph line 1, and "RTP receivers provide reception quality feedback using RTCP report packets", [page 26] subsection 6.4 line 3),

a data distribution section that distributes the real-time data using a connection-less type communication protocol (see "This memorandum describes RTP, the real-time transport protocol. RTP provides end-to-end network transport functions suitable for applications transmitting real-time data", Abstract lines 3-4, which "transmitting real-time

data", as stated, will have to be realized by *a data distribution section* in said "data sender").

Schulsrinne does not disclose *a control information transmission and reception section that is able to notify the determined transmission interval information to other end of communication using a connection-oriented communication protocol.*

Suzuki discloses "two-way information transmission system such as video on-demand system" (col. 1 lines 8-9) wherein "a subscriber terminal sends the demands ... to the information distribution transmission center" (Abstract lines 1-6) comprising the above cited features that are missing in Schulzrinne (see "The information distributing transmission center HE plans a transmits information requested according to the transmission schedule ... and transmits the transmission schedule information included in the going-down control data to the subscriber terminal which sent the demand prior to the actual transmission", Abstract lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Schulzrinne by adding the second-party notified packet transmission interval of Suzuki to Schulzrinne in order to provide a cost effective system wherein "the scale of the real-time transmission facility which must be provided by the information distribution transmission center can be reduced" (Suzuki, col. 4 lines 28-30).

Regarding claim 12, Schulzrinne discloses a memorandum that "specifies the real-time transport protocol (RTP), which provides end-to-end delivery services for data

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with real-time characteristics" ([page 4], Chapter "Introduction", 2nd paragraph, lines 1-2) comprising the following features

a mobile terminal apparatus which receives media data containing either audio data or video data from a media distribution server via a wired and wireless communication network and has a playback function (see "This memorandum describes RTP ... RTP provides end-to-end network transport functions suitable for applications transmitting real-time data, such as audio, video or simulation data", Abstract lines 3-5, which "applications" include "applications such as telephony in which some sources such as mobile entities may change addresses during course of an RTP session", [page 49] 3rd paragraph lines 3-5, noting it is notoriously old and well known in the art the mobile telephony apparatus all *have a playback function* in order for them to at least playback, for example, voice messages, and in the case of Schulzrinne to playback said "audio, video data"), *the apparatus comprises:*

a receiver report packet transmission interval arrangement section that transmits information related to a receiver report packet determined by itself (see "RTCP Transmission Interval", [page 18] title of section 6.2, known also as "The calculated interval T", [page 22] subsection 6.3.1, 1st paragraph line 4, and "Computing the RTCP transmission interval", [page 22] subsection 6.3.1, wherein "This interval is called the calculated interval. It is obtained by combining a number of pieces of state", subsection 6.3.1, 1st paragraph lines 2-3. It is noted here that said subsection 6.3.1 particularly provided **5 steps** of calculating said T, or *interval arrangement* for *a receiver report packet* as can be seen "RR: Receiver report", [page 16] subsection "6.1 RTCP Packet

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Format", 3rd paragraph, and "SR or RR: The first packet in the compound packet MUST always be a report packet", [page 17], 4th paragraph line 1, which "compound packet" is shown on [page 18] figure 1), *at a stage of establishing a session with the media distribution server* (see subsection "6.3.2 Initialization", [page 23], under which initialization process, "The calculated interval T is then computed", [page 23] subsection 6.3.2 line 4, noting that "initialization" means, as well known in the art, *before starting real-time* communications); *and*

a receiver report packet transmission section that transmits a receiver report packet to the media distribution server in accordance with the information related to the interval (see "RTP receivers provide reception quality feedback using RTCP report packets", [page 26] subsection 6.4 "Sender and Receiver Reports", 1st paragraph line 1, and further "Each reception report block provides statistics about the data received from the particular source indicated in that block", [page 26] subsection 6.4 "Sender and Receiver Reports", 2nd paragraph line 3-5).

Schulzrinne however does not disclose that the information transmitted from said receiver (*mobile terminal*) includes *information related to an interval for transmitting a receiver report packet.*

Suzuki discloses "two-way information transmission system such as video on-demand system" (col. 1 lines 8-9) wherein "a subscriber terminal sends the demands ... to the information distribution transmission center" (Abstract lines 1-6) comprising the above cited features that are missing in Schulzrinne (see "The information distributing transmission center HE plans a transmits information requested according to the

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transmission schedule ... and transmits the transmission schedule information included in the going-down control data to the subscriber terminal which sent the demand prior to the actual transmission", Abstract lines 6-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Schulzrinne by adding the second-party notified packet transmission interval of Suzuki to Schulzrinne in order to provide a cost effective system wherein "the scale of the real-time transmission facility which must be provided by the information distribution transmission center can be reduced" (Suzuki, col. 4 lines 28-30).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2002/0004841 discloses real-time data transmission system wherein sender receives data from receiver regarding data-loss rate and compares it with preset thresholds and maintain or adjust transmission rate per comparison results.

US 5,778,318 discloses a method for allocating channels in a radio system wherein a base station informs the time slots and transmission periods for subsequent data transmission.

US 2003/0083870 discloses system and method of network adaptive real-time multimedia streaming wherein packet loss is monitored by receiver upon and message is sent to the sender for decreasing sender's data transmission bit rate.

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US 2002/0194361 discloses data transmitting/receiving method and system wherein round-trip propagation delay time measurements packets are used for sender to determine and adjust data sending rate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lai whose telephone number is 571-272-9741. The examiner can normally be reached on M-F 7:30-5:00 EST, Off alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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KWANG BIN YAO
SUPERVISORY PATENT EXAMINER

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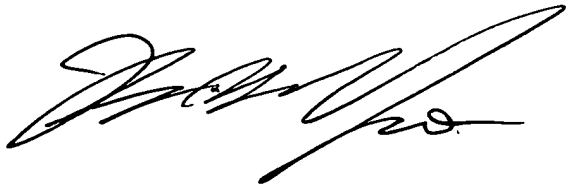

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